

**AMENDMENTS TO THE CLAIMS:**

**Please amend the claims as follows:**

1. (Previously Presented) A method of thermally treating a magnetic layer of a wafer, comprising:

annealing, for a predetermined short duration, a magnetic layer of a single wafer;  
and  
applying at least one local magnetic field to said magnetic layer.

2. (Previously Presented) The method of claim 1, wherein said annealing comprises:

heating an entirety of said single wafer.

3. (Previously Presented) The method of claim 1, wherein said annealing comprises:

heating a local area on the single wafer.

4. (Previously Presented) The method of claim 1, wherein said annealing comprises:

heating said magnetic layer within a range of about 300 to about 500 degrees C.

5. (Currently Amended) ~~A method of thermally treating a magnetic layer of a wafer, comprising:~~

~~annealing, for a predetermined short duration, a magnetic layer of a single wafer;~~  
~~and~~

The method of claim 1, wherein said annealing comprises:

heating said magnetic layer for a duration within a range of about 1 second to about 60 seconds in the presence of at magnetic field.

6. (Previously Presented) The method of claim 1, wherein said annealing comprises:

annealing by one of a flash lamp, a laser, a flashlight, a focused heat lamp, and a rapid thermal anneal (RTA) lamp.

7. (Previously Presented) The method of claim 1,

wherein said applying a magnetic field to said magnetic layer is conducted after said annealing.

8. (Previously Presented) The method of claim 7, wherein said applying is performed to align a pinning of the magnetic layer.

9. (Previously Presented) The method of claim 3, wherein said annealing comprises annealing a desired spot on the single wafer, said method further comprising:

performing one of a spot-to-spot processing and a line-to-line processing.

10. (Previously Presented) The method of claim 1, further comprising:

sequentially annealing different areas of the single wafer in different directions.

11. (Previously Presented) A method for processing a magnetic stack, comprising:

annealing a single wafer having a magnetic stack formed thereon, with a predetermined fast anneal in a presence of a magnetic field; and  
applying at least one local magnetic field to said magnetic layer.

12. (Previously Presented) The method of claim 11, further comprising:

cooling the single wafer by at least one of cooling liquid, helium, nitrogen, argon, and a vacuum.

13. (Previously Presented) The method of claim 11, further comprising:

annealing only portions of the single wafer at a time.

14. (Previously Presented) The method of claim 11, further comprising:

changing a direction of an applied magnetic field point-by-point.

15. (Previously Presented) A method for processing a magnetic stack, comprising:

annealing a single wafer having a magnetic stack formed thereon, with a predetermined fast anneal in a presence of a magnetic field; and  
annealing multiple separate locations at the same time.

16. (Previously Presented) The method of claim 11, further comprising:

rotating the single wafer and annealing another area of the single wafer in a different direction.

17. (Previously Presented) The method of claim 11, further comprising:

rotating the field and annealing another area of the single wafer in a different direction.

18-25. (Canceled)

26. (Previously Presented) The method of claim 11, further comprising:

cooling only portions of the single wafer.

27. (Canceled)

28. (Previously Presented) The method of claim 1, further comprising:

cooling the single wafer by at least one of cooling liquid, helium, nitrogen, argon, and a vacuum.

29. (Previously Presented) The method of claim 1, further comprising:

annealing only portions of the single wafer at a time.

30. (Previously Presented) The method of claim 1, further comprising:

changing a direction of the local magnetic field point-by-point.

31. (Previously Presented) The method of claim 1, further comprising:

annealing multiple separate locations at the same time.

32. (Previously Presented) The method of claim 1, further comprising:

rotating the single wafer and annealing another area of the single wafer in a different direction.

33. (Previously Presented) The method of claim 1, further comprising:

rotating the field and annealing another area of the single wafer in a different direction.

34. (Previously Presented) The method of claim 1, further comprising:

cooling only portions of the single wafer.